

LDWSF
12.3.54 v5.

04/12/1976

Glacier Stg
5975 E.M. Wy. S.

1031.34~~4~~

³
Mar. 73 installed

4/14/73 read

000000 50
cu. Ft.

USEPA SF



1316372

~~FILE~~ / ~~DAXH~~ / ~~LLI~~ / ~~FILE~~

Company Name

Glacier Sand and Gravel

Date: April 12, 1976

Person contacted: Harold E. Haney - Plant Superintendent

Purpose of visit: Determine if Glacier is presently
discharging industrial waste to sewer.

Resume of meeting: On April 7, 1976 I visited the Glacier
Sand and Gravel East Marginal Way South plant. Mr. Haney showed
me through the yard operation and explained their procedures.
All truck wash water and yard runoff is drained to a two-cell
settling pond. Sand and gravel is removed from the pond by means
of a screw washer and reused for concrete mix. Particulate
cement is also removed, but is not reused in their products as
is the practice in several other local plants. At present, this
waste concrete is used for landfill. The clarified water is
pumped to a nearby tank (about 10,000 gallon capacity) and used
for truck washing and concrete mix. Mr. Haney released a small
amount of water from the tank. It appeared to be reasonably
clear, containing little visible solids. When the capacity of
the storage tank is exceeded, the overflow escapes to the Metro
sewer on East Marginal Way. Discharge in this manner occurs during
periods of heavy rainfall or possibly during rainy weekends when
the plant is not using water. The discharge is metered near the
connection to the East Marginal Way sewer. Two manholes are
located in the sidewalk on the south end of the office building
inside the company fence. The western manhole contains the sewer

meter; the eastern manhole allows access to the open line. This eastern manhole is suitable for installation of a Martig flow level recorder and an ISCO sample tube head.

Conclusion: Glacier Sand and Gravel discharges industrial waste only occasionally to the Metro sewer. Sampling could best be accomplished during periods of heavy rainfall when yard drainage causes the storage tank to overflow. Glacier should probably be sampled at least once, but I doubt if their discharge carries any substantial solids loading.

BRB:cm



METRO MEMO

June 4, 1974

TO: ~~C. D. Farris~~
J. D. Hinman

FROM: Larry L. Petersen

SUBJECT: Oil Spill at Glacier Sand and Gravel
(Northlake Plant)

Bill Clendaniel (city of Seattle engineering Dept.) telephoned that Glacier Sand and Gravel Co., Northlake Plant, produced an oil spill into the City of Seattle Latona Avenue pump station. I investigated the complaint and found that Glaciers yard forman backed a large boom into Lake Union. He was going to scoop out the sludge within the final settling pond, but the boom had a mechanical failure which resulted in rolling over the bank into the water.

The lake's surface was choppy from a good south wind and little evidence of diesel fuel could be seen on the surface. The pump station was checked and it had no oil within it.

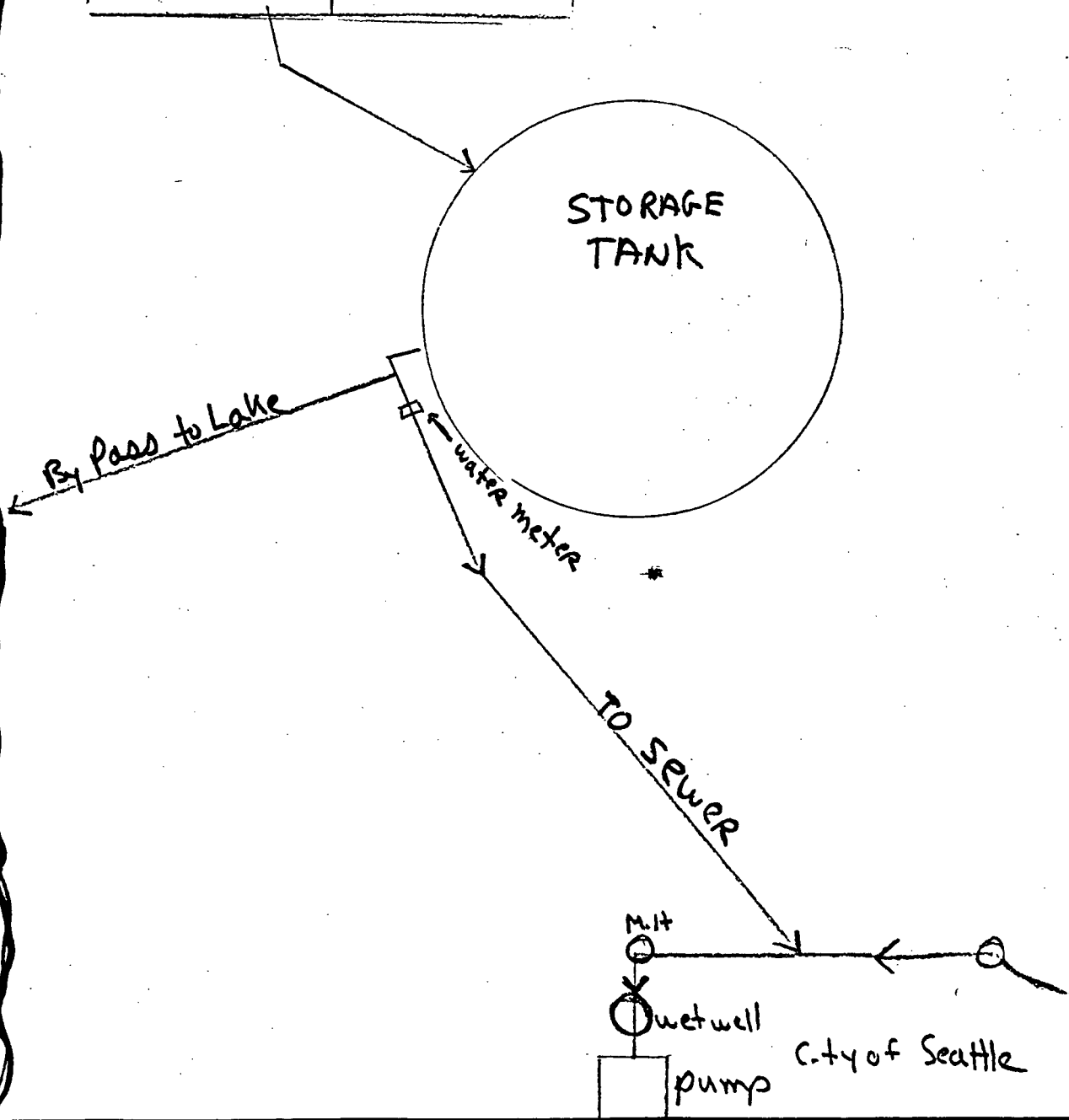
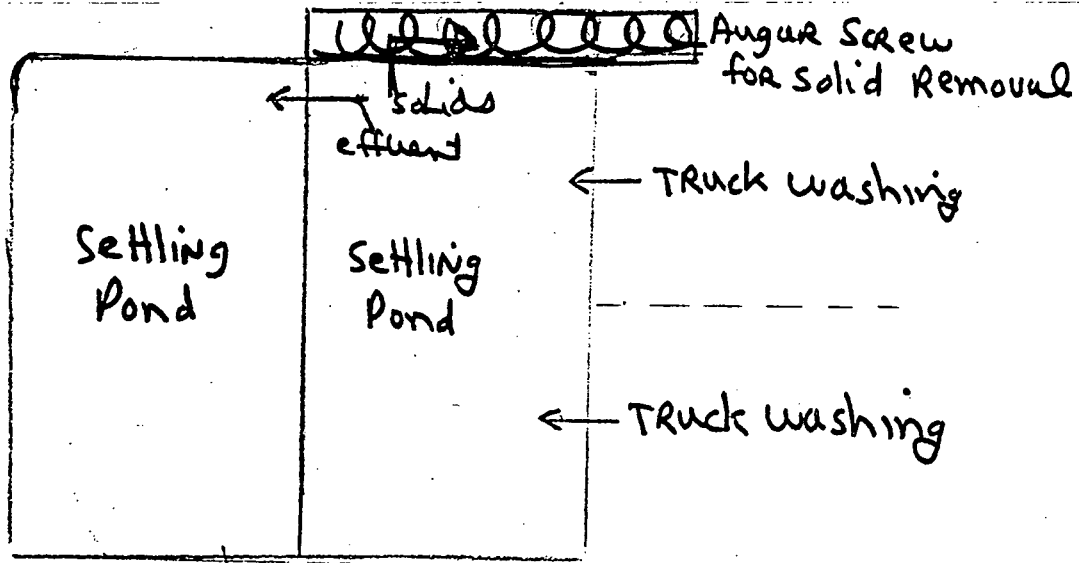
When the bucket dropped it sheared off a valve on the "Pozzolith 100" tank. Pozzolith 100 is a chemical which is added to cement which retards the setting up time. The tank held about 200 gallons and it flowed into the final settling pond.

After going through the large storage tank I doubt if the pozzolith 100 would ever be seen in the sewer system or pump station.

LLP:dsp

Harold E Haney - Plant. Sup.
764-3635

WALKER JUNG & ASSOCIATES
NORTHlake PLAN



October 4, 1972

Mr. M. C. McGuire
Glacier Sand and Gravel Company
5975 East Marginal Way South
Seattle, Washington 98134

Dear Mr. McGuire:

As discussed with you on September 11, 1972, Metro will accept the excess truck wash water and contaminated storm water from your East Marginal Way Plant. Storm water must be confined to only that water contaminated on the apron where trucks are loaded or cleaned. Both excess wash water and the contaminated storm water must go through the settling basin system prior to entry into the sanitary sewer.

The Northlake Plant's waste water will be accepted under the same conditions provided that storm water from Northlake Way is not allowed to enter your system. An alternative to both plants' problems would be the incorporation of a Department of Ecology approved neutralization system with the neutralized water going to the waterways. We would prefer the latter approach but will accept the waste water as mentioned above.

Any waste discharge to the sewer system will have to be metered. If you have any questions please feel free to contact us at any time.

Very truly yours,

Douglas A. Hilderbrand
Industrial Waste Inspector

DAH:gg

cc: Mr. Tom McCann
Mr. Harold Thornquist

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON

*File
16 Aug 72*

Permit No. 3977

In accordance with Chapter 90.48 RCW,
and Chapter 372-24 W.A.C.

Date of Issue February 28, 1972

A WASTE DISCHARGE PERMIT is issued to:

Date of Expiration February 28, 1977

Glacier Sand and Gravel Company (17830)
5975 E. Marginal Way South
Seattle, Washington 98134

Duwamish Plant

Waste from the permittee's industrial operation located at 5975 E. Marginal Way S., Seattle, not exceeding 100,000 gallons per day, may be discharged to the Duwamish River at the following point of discharge: Slip No. 2, Duwamish River.

Said discharge is authorized subject to the following conditions:

1. The word "waste" in the above statement refers to the total volume of cooling and contaminated waters to be discharged.
2. The permittee shall investigate and implement methods for the re-use of treated wastewater presently discharged to the Duwamish River. The wastewater treatment facility shall be modified and operated in such a manner as to provide a complete, closed-circuit recirculation system. Excess water accumulation shall be disposed of by regulated, metered connection to the sanitary sewer system. The permittee shall implement the above improvements in accordance with the following schedule of dates:
 - A. Submission of a report and detailed construction plans for the closed-circuit recirculation system - October 31, 1972;
 - B. Facilities completed and placed in operation - January 31, 1973.
3. The waste treatment facilities shall receive all plant wastewater and contaminated surface run-off, except sanitary sewage, and shall be operated in such a manner as to provide settlement of fines and removal of turbidity. The clarified water shall be held overnight (10-hour minimum) in the elevated settling/storage tank prior to controlled discharge to Slip No. 2. Adequately treated effluent withdrawn from the tank above the sludge interface shall have the following characteristics:
 - A. A pH range of 6.5 to 8.5 in the immediate dilution zone below the outfall;
 - B. Turbidity not exceeding 10 Jackson Turbidity Units over natural conditions in the Duwamish River;
 - C. No visible oils.
4. Sediment accumulations in the elevated settling tank shall be removed daily. Sediment and sludge fines shall be disposed of in a diked area or incorporated and thoroughly mixed with other stable fill material for immediate removal from the plant site.

Glacier Sand and Gravel Company
Seattle, Washington

Date of Issue February 28, 1972Date of Expiration February 28, 1977

5. All washdown of truck and equipment exteriors and mixer drum interiors shall be conducted on the wash rack drainage slabs and all washwaters shall be discharged to the aggregate recovery trough for pumping to the elevated settling tank. The use of detergent solutions to clean trucks shall be kept to an absolute minimum.
6. No wastewater, washwater or other contaminated water, nor waste concrete shall be discharged to the Duwamish River or to the immediate embankment along the river, where such wastes may leach or flow into the waterway.
7. All batch plant washdown water and immediate surface drainage shall be collected in the aggregate recovery trough and pumped to the elevated settling tank for treatment.
8. Waste concrete shall be discharged to the aggregate recovery screw mechanism or incorporated into form-cast concrete products.
9. Dry cement shall be handled in such a manner as to prevent its discharge to the ground surface or contamination of storm water run-off.
10. No oils, waste oils, solvents or oily sludges are to be discharged to the ground surface or the waste treatment system.
11. All barrels containing oils, waste oils, setting agents, air-entraining agents or other chemicals shall be stored in a curbed, covered area to eliminate possible spills and contaminated run-off from entering any sewer system or flowing overland to a state waterway. Empty barrels shall be adequately stoppered and stored in an upright position away from the waterway.
12. Diesel and fuel filler hoses shall be provided with covered drip pans to contain any spillage or leakage from fuel transfer operations.
13. Sanitary wastes are to be discharged to the Seattle sanitary sewerage system.
14. In the event the permittee is temporarily unable to comply with any of the above conditions of this permit, due to breakdown of equipment or other cause, the permittee is to immediately notify this department. This report is to include pertinent information as to the cause and what steps are being taken to correct the problem and prevent its recurrence.

This permit does not allow the discharge of wastes other than those mentioned herein. A new application shall be submitted whenever a change in the waste to be discharged is anticipated.

This permit is subject to termination if the department finds: (1) That it was procured by misrepresentation of any material fact or by lack of full disclosure in the application; (2) That there has been a violation of the conditions thereof; (3) That a material change in quantity or type of waste disposal exists.

Date of Issue February 28, 1972

Glacier Sand and Gravel Company
Seattle, Washington

Date of Expiration February 28, 1977

In the event that a material change in the conditions of the state waters utilized creates a dangerous degree of pollution, the department may specify additional conditions to this permit.

Nothing in this permit shall be construed as excusing the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including those administered by local agencies under the Shoreline Management Act of 1971.

Signed

R. Jerry Bolles

Assistant Director
Department of Ecology



October 6, 1970

Metropolitan Council

Chairman
C. Carey Donworth

MEMORANDUM

SEATTLE

Mayor
Wes Uhlman

Councilmen
Ted Best

Charles M. Carroll

George E. Cooley

Tim Hill

Mrs. Arthur V. Lamphere

Wayne D. Larkin

Sam Smith

Liem Eng Tuai

Mrs. Jeanette Williams

BELLEVUE

Councilman

Kenneth A. Cole

KIRKLAND

Councilman

Albert A. King

MERCER ISLAND

Mayor

Aubrey Davis, Jr.

REDMOND

Mayor

Selwyn L. "Bud" Young

RENTON

Mayor

Avery Garrett

SMALLER TOWNS

Richard K. Sandaas

Mayor, Yarrow Point

KING COUNTY

County Executive

John D. Spellman

County Council

District Representatives

Thomas M. Forsythe

William H. Reams

A. Dean Worthington

Executive Director

Charles V. Gibbs

TO: ~~G. D. Farris~~ *JK*
Tom Rice
Dave Nunnallee

FROM: Allan Poole

SUBJECT: Glacier Sand & Gravel Co. (207 North Lake)

On September 24, 1970 I met with Mike McGuire and Bob Haaker of Glacier Sand & Gravel and Dave Nunnallee of the Department of Ecology at Glacier's North Lake Plant to observe their ready mix concrete operations and to discuss proposed wastewater handling facilities.

The North Lake Plant is located along the north shoreline of Lake Union in a low area receiving surface water runoff from the nearby hillsides and streets. All wastewater, including that from hosing out redi-mix concrete trucks, tanks and equipment in the two batch plants, and catch basin drains are discharged directly to Lake Union.

I discussed the concern of Metro and the City of Seattle towards keeping any additional stormwater runoff out of the sewer system, even though an area might presently have a combined sewer system. I indicated we would be willing to accept dry weather wastewaters after adequate settling to remove settleable solids, and possibly a limited amount of stormwater runoff from very small open areas where contaminated dry weather wastewaters are occurring, (i.e. such as open trench drain in batch plant area which is hosed down daily).

We discussed the feasibility of Glacier installing a settling tank system, receiving both truck washwater and a limited amount of storm drainage, which would discharge to Lake Union. Dave Nunnallee indicated their previous concern for high pH of the clarified wastewater has been diminished by recent favorable testing at Glacier's Duwamish River Plant. A very clear effluent at pH of 10

has not been detectable within the river beyond the immediate outfall area. The Department of Ecology position has been changed to permit industry direct discharge at the higher pH if turbidity limits are met.

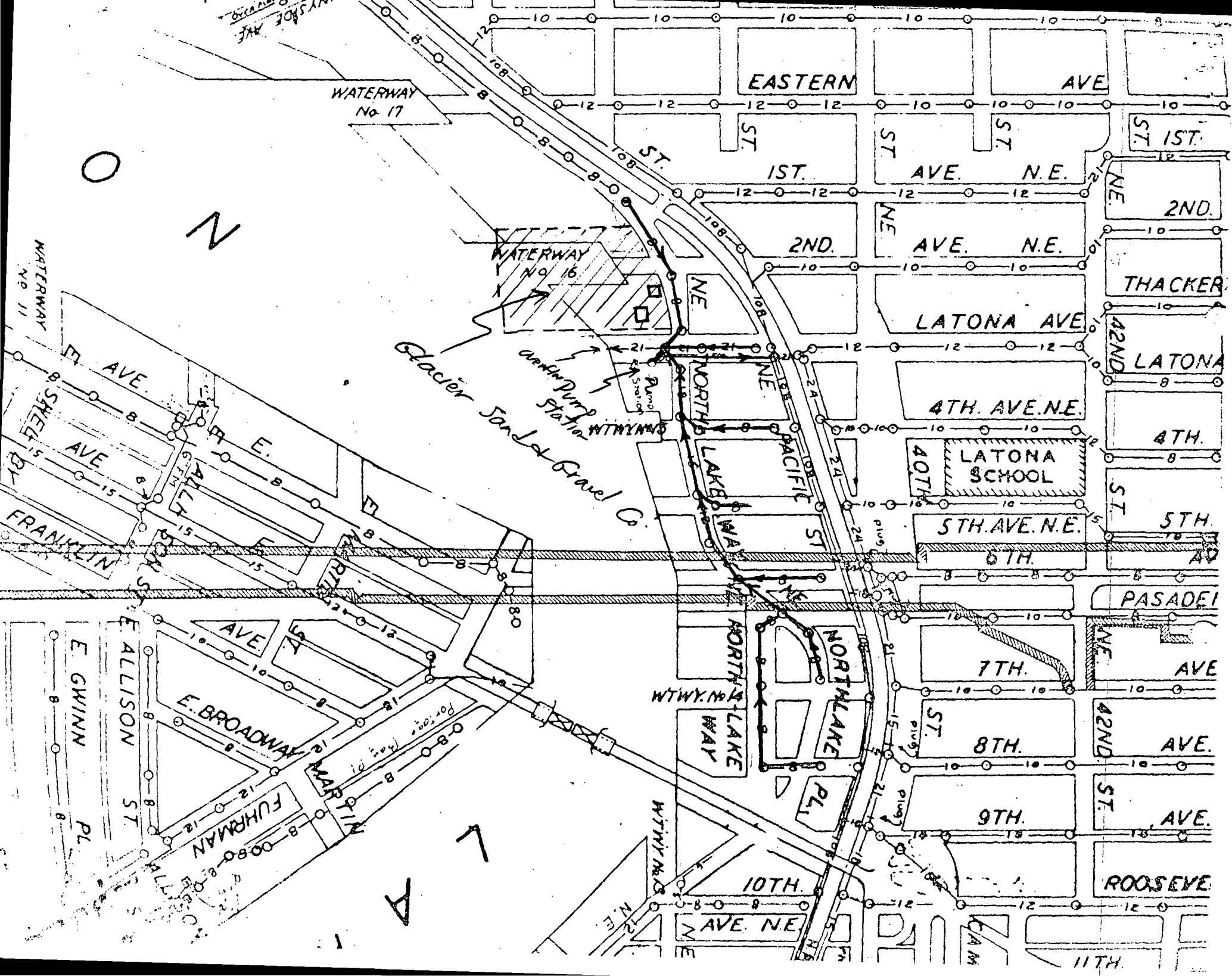
Glacier does not plan on recycling truck washwater at the North Lake Plant because of their space limitations and probably need to treat stormwater runoff. They do intend to recover waste solids, (gravel) from the truck washwater.

Because of the location there is a large amount of surface runoff now draining across the Glacier Sand & Gravel Company property. Unless the Department of Ecology is willing to let this runoff continue to be discharged direct to Lake Union, or the runoff can be diverted across the Glacier property by closed conduit thence reducing stormwater to be treated, it does not appear an adequate treatment system can be provided. Glacier will explore methods of improved drainage of upland runoff across their property.

According to Mike McGuire they will probably install a large tank with conical bottom for the truck washwater (gravity flow) and batch plant washwater (pumped) with effluent discharged to the Lake or possibly pumped to Metro. This system may treat some stormwater runoff.

Our meeting should provide Glacier Sand & Gravel with an understanding of quantity and quality concerns for discharge to Metro. From the attached map it is noted that all wastewater from Glacier would have to be pumped from Latona Avenue and North Lake Drive to NE Pacific Street. Obviously storm water pumpage is not desirable if not impractical.

ALP:jb



OCT 23 1970

MEMORANDUM

Department of the Interior
 U. S. G. O.
~~OLYMPIA, WASHINGTON~~
 98501

Municipality of Metropolitan, 1914-1915

98501

TO: Allan Poole, Mac, Stew, Chris & Files

DATE: September 21, 1970

FROM: Dave Nunnallee

SUBJECT: Glacier Sand & Gravel
Waste Treatment System

Today Stew and I inspected and tested the new Glacier Sand & Gravel Company treatment facilities on the Duwamish River. These facilities consist of a large cylindrical tank with a cone shaped bottom, into which all storm and truck washing wastes are discharged. Discharge is accomplished by dumping truck and storm waters into a slanting concrete trough perhaps 100+ feet long. The downstream end of this trough is bordered by an overflow weir into a pump sump. The pump suction is located in the bottom of the sump and pumps all waste materials up into the top of the tank which is probably 60 to 70 feet high. Treatment consists of overnight settling. Sand and gravel is recovered with a screw device.

Discharge from the treatment system occurs in the morning before any trucks are washed out, subsequently discharging to the treatment facility. A man climbs a ladder to the top of the open-top treatment facility and looks down to see where the water-sludge interface is. He counts the number of pitcocks which are visible above the rather dramatic interface of the solids and water. This tells him where the sludge level is located relative to discharge pitcocks which are located throughout the height of the tank. In this manner the proper pitcocks can be opened and the clear water drawn off and discharged to the Duwamish River. Sludge is to be disposed of through the cone-shaped bottom of the tank by driving trucks underneath the unit and opening discharge valves into the top of the trucks. The company is presently working with methods for dewatering this sludge so it can be used for landfill.

The treated water to be discharged to the river was tested throughout the discharge period. One sample was taken at the beginning another during the middle and another at the last part of said discharge. The samples taken appeared to be very clear, and turbidity ranged from 0 JTU's at the beginning of the discharge to 5 JTU's at the end. The pH was constant at 10 throughout the discharge (Readings by Hach Kit.)

Near the latter part of the discharge, a water sample was taken from the Duwamish River perhaps 15 feet directly out from the discharge point. This was in Slip 2 of the Duwamish River, rather than in the main body of the river. There was very little current at that point, if any. At this point the turbidity measured 5 JTU's and the pH measured 7.5. Another sample of river water, for control, was taken several hundred feet away from the discharge. At this point, pH measured 7.6, and the turbidity measured 10 JTU's. The sample taken in the vicinity of the discharge point, therefore, was of higher quality than the control sample taken out of the Slip at a different point. *strong inference on one sample,*

MEMO
Glacier S & G
9-21-70

D. Nunnallee

Based on the above testing and visual inspection of the system, a verbal approval for this system has been given, to discharge the waste waters to the Duwamish River in spite of the pH of 10. This was granted to Glacier with the following restrictions:

1. It was noted that because there is an allowed discharge at this time, it is ~~is~~ possible, and perhaps probable, that further restrictions will be made in the future.
2. The discharge must be by way of an underwater diffuser with at least three diversion discharge ports.
3. The approval is contingent on a solution of the sludge problem.
4. The approval was also contingent upon the effluent always meeting the turbidity standard which, in that particular area, consists of less than 10 JTU's over natural conditons. If their effluent is always as it appeared on the day of this inspection, there will be no problem at all with turbidity.

Based on these observations and on this decision, we are going to proceed with checking the feasibility of similar discharges to such bodies as Lake Washington and Lake Union. It is possible that similar restrictions will be adequate at least for the present on these bodies of water relative to pH and turbidity.

DAN:dlc
10-14-70

*What are their plans
for monitoring this
effect?*

*a very practical & common sense
approach to this problem.
showing a willingness to fit
realistic answers to difficult
problems. ACP*

December 2, 1969

Mr. M. C. McGuire
Glacier Sand & Gravel Company
5975 East Marginal Way South
Seattle, Washington 98134

Dear Mr. McGuire:

As discussed with you by telephone on December 2, 1969, Metro could not accept into the sewer system the unsettled wastes from washing of concrete mixer trucks. The heavy amount of settleable solids in such washwaters would in most instances cause serious problems of blockage or interference of flow in sewer lines and pump stations.

Metro's Resolution #610 "Regarding the Control & Disposal of Industrial Waste Into The Metropolitan Sewerage System" (copy enclosed) prohibits, under Section 3-01.02, the discharge of substances which cause obstruction or interference.

If we can be of service to you at any time, please let us know.

Very truly yours,

Allan L. Poole, P.E.
Industrial Waste Engineer

ALP:jj
Enclosure
cc: Water Pollution Control
Commission

Type.....
 Permit No.
 Date Rec'd.....
 Date Issued.....
 Date Expires.....
 NewRenewal.....
 WPCB Drainage Basin.....

WATER POLLUTION CONTROL COMMISSION
 State of Washington

Application is hereby made for a permit to discharge wastes into the State waters in accordance with Chapter 90.48 RCW and Chapter 372.24 WAC.

A. Name of Company Glacier Sand & Gravel Company
 B. Mailing Address 5975 E. Marginal Way So., Seattle, Washington Zip 98134
 C. Location of Plant Discharging Waste if Different From Above Same
 Phone RO 3-2200
 D. Specific Type of Industry Ready-Mixed Concrete
 E. Name of Waterway Receiving Waste Discharge Duwamish
 F. Location of Industrial Waste Discharge Point (s) Slip No. 2

G. Raw Water Supply: Source 1. Duwamish 1. 85,000
2. City 2. 15,000 (maximum) Gallons/Day

H. Waste Discharge Volumes:

	Average gallons/day	Maximum gallons/day
Wash Water		
Industrial Processing	<u>65,000</u>	<u>100,000</u>
Cooling		

I. Plant Operation:

	Days per Year	Number of Employees per shift	Day	Night	Swing
Average	<u>250</u>	<u>30</u>			
Maximum	<u>250</u>	<u>42</u>			

J. Raw Materials and Chemicals Used in Processes:

Brand Name	Chemical, Scientific or Actual Name	Quantities Used per Day*	
		Average	Maximum
<u>Permanente</u>	<u>Cement</u>	<u>625 bbl.</u>	<u>1,500 bbl.</u>
	<u>Sand & Gravel</u>	<u>850 tons</u>	<u>2,000 tons</u>
	<u>Water</u>	<u>15,000 gal.</u>	<u>36,000 gal.</u>

K. Production: _____ Quantity Produced per Day*
Average Maximum

Item	Average	Maximum
Ready-Mixed Concrete	500 cy	1,200 cy
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

L. Sanitary Wastes: Treatment _____ Discharged to City Sewer

M. Explain any seasonal variation you may have in waste discharge volumes, plant operations, raw materials and chemicals used in processes, and/or production: _____

Wide fluctuation in day-to-day operation and discharge.

volumes due to nature of business - in general, a decline in production occurs during winter months.

- N. Give a detailed description of the sources of all industrial wastes within your industry. Describe in detail the treatment given each of these wastes. Include in this description the disposal methods used for these wastes and also for any sludge collected by your waste treatment system. Include a schematic flow diagram showing the sources of all wastes and their flow pattern. Include this information with your application as Exhibit 1.
- O. Describe in detail the physical and chemical properties of the effluent to be discharged into state waters. Include in this description the sampling and analytical methods used to derive this information. Include this information with your application as Exhibit 2.
- P. Give any additional information or comments you feel necessary to clarify this application as Exhibit 3. Include all information for previous questions, where additional space is necessary, as part of Exhibit 3.

The information given on this application is correct and accurate to the best of my knowledge.

M. C. McGuire
Signature

M. C. McGuire
Printed

Staff Engineer
Title

5-11-71
Date

*Please specify units. For example: tons per day, pounds per day, barrels per day, etc.

EXHIBIT 1

The sources of industrial waste are: 1) Mixer truck wash water, 2) Plant mixer wash water, 3) Yard wash water and 4) Conveyor wash water. All the waste discharges are collected on a common trough and flowed to a sand screw. The sand screw recovers all coarse material which is reclaimed and disposed of as fill. The dirty water overflows the sand screw weir into a sump from where it is pumped to a large overhead settling tank. The dirty water is allowed to settle overnight. The settled water is drawn off the top down to just above the level of the sludge and discharged into the Duwamish river. The sludge is taken out through the bottom of the tank and stored in a containment bin. Some drying occurs and it is then mixed with fill material and disposed of as an unselected fill product.

EXHIBIT 2

The effluent has a turbidity in the range of 5 to 15 JTU and a Ph factor of between 10.0 and 11.0. In addition, the discharge contains minor amounts of residual cement particles, soluble salts, and calcium silicates. Samples are taken directly from the outfall pipe as the water is being discharged.

RECEIVED

DEC-18-1970

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON

Municipality of Metropolitan Seattle

Permit No. T-3372

In accordance with Chapter 90.48 RCW,
and Chapter 372-24 W.A.C.

Date of Issue November 18, 1970

A WASTE DISCHARGE PERMIT is issued to:

Date of Expiration December 31, 1971

Glacier Sand and Gravel Company
5975 East Marginal Way South
Seattle, Washington 98134

Waste from the permittee's industrial operation located at Lake Union not exceeding 100,000 gallons per day may be discharged to Lake Union at the following point of discharge: 205 N.E. Northlake Way, Seattle.

Said discharge is authorized subject to the following conditions:

1. The word "waste" in the above statement refers to the total volume of contaminated wastewater to be discharged.
2. Sanitary wastes shall be discharged to the Seattle sanitary sewer system.
3. Contaminated mixer truck washwater, plant mixer washwater, yard washwater, conveyor washwater and contaminated storm water shall be intercepted and treated to meet water quality standards according to the following time schedule:
 - A. Submission of construction plans and specifications for approval -
Fourth quarter, 1970
 - B. Arrangement of financing, advertising for bids and start of construction -
First quarter 1971
 - C. Approved facilities placed in operation -
Fourth quarter 1971.
4. No visible oils may be discharged to the receiving waters.
5. In the event the permittee is temporarily unable to comply with any of the above conditions of this permit, due to breakdown of equipment or other cause, the permittee is to immediately notify this department. This report is to include pertinent information as to the cause and what steps are being taken to correct the problem and prevent its recurrence.

This permit does not allow the discharge of wastes other than those mentioned herein. A new application shall be submitted whenever a change in the waste to be discharged is anticipated.

This permit is subject to termination if the department finds: (1) That it was procured by misrepresentation of any material fact or by lack of full disclosure in the application; (2) That there has been a violation of the conditions thereof; (3) That a material change in quantity or type of waste disposal exists.


Permit No. T-3372

Glacier Sand and Gravel Company
9975 East Marginal Way South
Seattle, Washington 98134

Date of Issue November 18, 1970

Date of Expiration December 31, 1971

In the event that a material change in the conditions of the state waters utilized creates a dangerous degree of pollution, the department may specify additional conditions to this permit.

Signed 

Assistant Director
Department of Ecology

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON

~~RAH~~ MH
File

Permit No. 3977

In accordance with Chapter 90.48 RCW,
and Chapter 372-24 W.A.C.

Date of Issue February 28, 1972

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Date of Expiration February 28, 1977

Glacier Sand and Gravel Company (17830)
5975 E. Marginal Way South
Seattle, Washington 98134

Duwamish Plant

Waste from the permittee's industrial operation located at 5975 E. Marginal Way S., Seattle, not exceeding 100,000 gallons per day, may be discharged to the Duwamish River at the following point of discharge: Slip No. 2, Duwamish River.

Said discharge is authorized subject to the following conditions:

1. The word "waste" in the above statement refers to the total volume of cooling and contaminated waters to be discharged.
2. The permittee shall investigate and implement methods for the re-use of treated wastewater presently discharged to the Duwamish River. The wastewater treatment facility shall be modified and operated in such a manner as to provide a complete, closed-circuit recirculation system. Excess water accumulation shall be disposed of by regulated, metered connection to the sanitary sewer system. The permittee shall implement the above improvements in accordance with the following schedule of dates:
 - A. Submission of a report and detailed construction plans for the closed-circuit recirculation system - October 31, 1972;
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Date of Issue February 28, 1972Glacier Sand and Gravel Company
Seattle, WashingtonDate of Expiration February 28, 1977

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Glacier Sand and Gravel Company
Seattle, Washington

Date of Expiration February 28, 1977

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Signed

A. Jerry Bolles

Assistant Director
Department of Ecology

Handwritten: JCH 10/1/72

DRAFT
RENEWAL
NO ADVERTISING NECESSARY
PERMANENT

Agency Comments _____

Public Comments _____

No Comments _____

Permit No. _____

Name and Address: Glacier Sand and Gravel Company Date of Issue _____
Duwamish Plant
5975 E. Marginal Way South Date of Expiration _____
Seattle, Washington 98134

Waste from the permittee's industrial operation located at 5975 E. Marginal Way S., Seattle
not exceeding 100,000 gallons per day may be discharged to the Duwamish River
_____ at the following point of discharge:

Slip No. 2, Duwamish River.

Said discharge is authorized subject to the following conditions:

1. The word "waste" refers to the total volume of cooling and contaminated waters to be discharged.
2. The permittee shall investigate and implement methods for the re-use of treated wastewater presently discharged to the Duwamish River. The wastewater treatment facility shall be modified and operated in such a manner as to provide a complete, closed-circuit recirculation system. Excess water accumulation shall be disposed of by regulated, metered connection to the sanitary sewer system. The permittee shall implement the above improvements in accordance with the following schedule of dates:
 - A. Submission of a report and detailed construction plans for the closed-circuit recirculation system - October 31, 1972;
 - B. Facilities completed and placed in operation - January 31, 1973.
3. The waste treatment facilities shall receive all plant wastewater and contaminated surface run-off, except sanitary sewage, and shall be operated in such a manner as to provide settlement of fines and removal of turbidity. The clarified water shall be held overnight (10-hour minimum) in the elevated settling/storage tank prior to controlled discharge to Slip No. 2. Adequately treated effluent withdrawn from the tank above the sludge interface shall have the following characteristics:
 - A. A pH range of 6.5 to 8.5 in the immediate dilution zone below the outfall;
 - B. Turbidity not exceeding 10 Jackson Turbidity Units over natural conditions in the Duwamish River;
 - C. No visible oils.
4. Sediment accumulations in the elevated settling tank shall be removed daily. Sediment and sludge fines shall be disposed of in a diked area or incorporated and thoroughly mixed with other stable fill material for immediate removal from the plant site.
5. All washdown of truck and equipment exteriors and mixer drum interiors shall be conducted on the wash rack drainage slabs and all washwaters shall be discharged to the aggregate recovery trough for pumping to the elevated settling tank. The use of detergent solutions to clean trucks shall be kept to an absolute minimum.

Glacier Sand and Gravel Co.
Duwamish Plant
5975 E. Marginal Way South
Seattle, Washington 98134

2

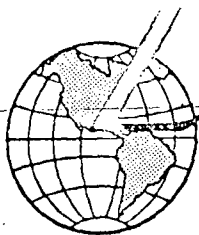
Draft
Renewal
No Advertising Necessary
Permanent

6. No wastewater, washwater or other contaminated water, nor waste concrete shall be discharged to the Duwamish River or to the immediate embankment along the river, where such wastes may leach or flow into the waterway.
7. All batch plant washdown water and immediate surface drainage shall be collected in the aggregate recovery trough and pumped to the elevated settling tank for treatment.
8. Waste concrete shall be discharged to the aggregate recovery screw mechanism or incorporated into form-cast concrete products.
9. Dry cement shall be handled in such a manner as to prevent its discharge to the ground surface or contamination of storm water run-off.
10. No oils, waste oils, solvents or oily sludges are to be discharged to the ground surface or the waste treatment system.
11. All barrels containing oils, waste oils, setting agents, air-entraining agents or other chemicals shall be stored in a curbed, covered area to eliminate possible spills and contaminated run-off from entering any sewer system or flowing overland to a state waterway. Empty barrels shall be adequately stoppered and stored in an upright position away from the waterway.
12. Diesel and fuel filler hoses shall be provided with covered drip pans to contain any spillage or leakage from fuel transfer operations.
13. Sanitary wastes are to be discharged to the Seattle sanitary sewerage system.
14. In the event.....
This permit.....
This permit.....
In the event.....

SAM:11

1-27-72

cc: A. L. Poole, Metro, Seattle
L. White, City of Seattle Engineering Dept.
George Hixon, Sewer Utility, Seattle Dept. of Engr.



CERTIFICATE

LAUCKS TESTING LABORATORIES INCORPORATED

MAin 2-0727

1008 WESTERN AVENUE
SEATTLE, WASHINGTON 98104

LABORATORY NO. 48693

DATE May 16, 1972

CHEMISTS
SAMPLERS • INSPECTORS
ASSAYERS • SPECTROGRAPHERS
BIO-CLINICAL CHEMISTRIES

CLIENT
Glacier Sand & Gravel Co.
5975 East Marginal Way South
Seattle, Washington 98134

REPORT ON
EFFLUENT

SAMPLE IDENTIFICATION
Sampled 5-4-72 at your Northlake Mixing Plant

TESTS PERFORMED AND RESULTS:

pH, glass electrode at 25°C ----- 12.3
Turbidity, Jackson Units ----- 25

Milligrams per Liter

Total Solids -----	1746.5
Total Volatile Solids -----	318.0
Total Suspended Solids -----	53.5
Total Dissolved Solids -----	1693.0
5 Day B.O.D. -----	3.6
Ammonia as N -----	0.1
Nitrate as N -----	0.04
Total Phosphorus as P -----	0.00
Chemical Oxygen Demand (C.O.D.) -----	14.2
Kjeldahl Nitrogen -----	0.8
Phenolphthalein Alkalinity -----	1680.0
Total Alkalinity -----	1730.0
Total Hardness -----	1850.0
Nitrite as N -----	0.0
Sulfate as S -----	36.1
Sulfite as S -----	0.0
Chloride as Cl -----	54.0
Oil & Grease -----	7.6

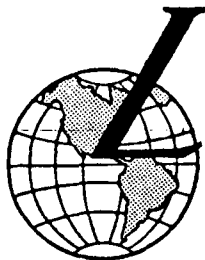
Respectfully submitted,

LAUCKS TESTING LABORATORIES, INC.

J. M. Owens
J. M. Owens

JO:po

REPORT IS SUBMITTED FOR THE EXCLUSIVE USE OF THE PERSON, PARTNERSHIP, OR CORPORATION TO WHOM IT IS ADDRESSED. SUBSEQUENT USE OF THE NAME OF THIS COMPANY OR ANY MEMBER OF ITS STAFF IN CONNECTION WITH THE ADVERTISING OR SALE OF ANY PRODUCT OR SERVICE WILL BE GRANTED ONLY ON CONTRACT. THIS COMPANY ACCEPTS NO RESPONSIBILITY EXCEPT FOR THE DUE PERFORMANCE OF INSPECTION AND ANALYSIS IN GOOD FAITH AND ACCORDING TO THE RULES OF THE TRADE AND OF SCIENCE.



CERTIFICATE

LAUCKS TESTING LABORATORIES INCORPORATED

MAin 2-0727

1008 WESTERN AVENUE
SEATTLE, WASHINGTON 98104

LABORATORY NO. 47151-E/J

DATE June 17, 1971

CHEMISTS
SAMPLERS • INSPECTORS
ASSAYERS • SPECTROGRAPHERS
BIO-CLINICAL CHEMISTRIES

CLIENT **Glacier Sand and Gravel Co.**
5975 East Marginal Way South
Seattle, Washington 98134

WATER

REPORT ON

Marked: E - Plant #3 INNF
F - Plant #3 EFF
G - Plant #4 INNF

H - Plant #4 EFF
I - Plant #5 INNF
J - Plant #5 EFF

SAMPLE IDENTIFICATION

TESTS PERFORMED AND RESULTS:

	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
pH, glass electrode at 25°C	7.3	12.2	7.4	11.8	7.5	12.3

Milligrams per liter

Total alkalinity, calc. as CaCO ₃	16.0	1104.0	51.0	580.0	14.0	3734.0
B.O.D., 5 day	1.8	2.7	2.8	2.0	1.1	0.6
Dissolved oxygen	10.1	9.7	9.8	10.3	8.7	9.8
Total solids	35.0	1226.0	2668.0	2606.0	40.5	16,572.0
Total dissolved solids	33.0	1119.0	2664.0	2555.0	39.0	8,516.0
Total suspended solids	2.0	107.0	4.0	51.0	1.5	8,056.0
Total volatile solids	2.5	92.0	611.0	351.5	6.5	749.0
Kjeldahl nitrogen	0.02	0.20	0.06	0.20	0.20	0.20
Oil and grease	0.2	0.0	0.8	1.2	1.1	2.3
Total acidity, calc. as CaCO ₃	8.0	0.0	5.0	0.0	3.0	0.0
Chloride, calc. as Cl	1.0	26.0	550.0	780.0	11.8	6.5
Sulfate, calc. as SO ₄	2.9	105.9	172.4	250.7	1.6	55.7
Sulfide, calc. as S	0.0	0.0	0.0	0.0	0.0	0.0
Phenols	0.0	0.0	0.0	0.0	0.0	0.0
Organic nitrogen	0.00	0.06	0.00	0.14	0.06	0.00
Ammonia, calc. as N	0.02	0.14	0.06	0.06	0.14	0.20
Total phosphorus, calc. as P	0.02	0.00	0.30	0.00	0.00	0.00
Ortho phosphate, calc. as P	0.00	0.00	0.03	0.00	0.00	0.00
Chromium, calc. as Cr	0.00	0.03	0.00	0.06	0.00	0.08



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Revised 1-5-71
by ALP
acceptable & well
written by SM.
add

DRAFT
RENEWAL
NO ADVERTISING NECESSARY
PERMANENT

Agency Comments _____

Public Comments _____

No Comments _____

Permit No. _____

Name and Address: Glacier Sand and Gravel Company Date of Issue _____
Duwamish Plant
5975 E. Marginal Way South Date of Expiration _____
Seattle, Washington 98134

Waste from the permittee's industrial operation located at 5975 E. Marginal Way S., Seattle
not exceeding 100,000 gallons per day may be discharged to the Duwamish River

_____ at the following point of discharge:

Slip No. 2, Duwamish River.

Said discharge is authorized subject to the following conditions:

1. The word "waste" refers to the total volume of cooling and contaminated waters to be discharged.
2. The waste treatment facilities shall receive all plant wastewater and contaminated surface run-off, except sanitary sewage, and shall be operated in such a manner as to provide settlement of fines and removal of turbidity. The clarified water shall be held overnight (10-hour minimum) in the elevated settling/storage tank prior to controlled discharge to Slip No. 2. Adequately treated effluent withdrawn from the tank above the sludge interface shall have the following characteristics:
 - A. A pH range of 6.5 to 8.5 in the immediate dilution zone below the outfall;
 - B. Turbidity not exceeding 10 Jackson Turbidity Units over natural conditions in the Duwamish River;
 - C. No visible oils.
3. Sediment accumulations in the elevated settling tank shall be removed daily. Sediment and sludge fines shall be disposed of in a diked area or incorporated and thoroughly mixed with other stable fill material for immediate removal from the plant site.
4. All washdown of truck and equipment exteriors and mixer drum interiors shall be conducted on the wash rack drainage slabs and all washwaters shall be discharged to the aggregate recovery trough for pumping to the elevated settling tank. The use of detergent solutions to clean trucks shall be kept to an absolute minimum.
5. No wastewater, washwater or other contaminated water, nor waste concrete shall be discharged to the Duwamish River or to the immediate embankment along the river, where such wastes may leach or flow into the waterway.

Glacier Sand and Gravel Co.
Duwamish Plant
5975 E. ~~Marginal Way~~ South
Seattle, Washington 98134

2

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Renewal
~~No Advertising Necessary~~
Permanent

6. All batch plant washdown water and immediate surface drainage shall be collected in the aggregate recovery trough and pumped to the elevated settling tank for treatment.
7. Waste concrete shall be discharged to the aggregate recovery screw mechanism or incorporated into form-cast concrete products.
8. Dry cement shall be handled in such a manner as to prevent its discharge to the ground surface or contamination of storm water run-off.
9. No oils, waste oils, solvents or oily sludges are to be discharged to the ground surface or the waste treatment system.
10. All barrels containing oils, waste oils, setting agents, air-entraining agents or other chemicals shall be stored in a curbed, covered area to eliminate possible spills and contaminated run-off from entering any sewer system or flowing overland to a state waterway. Empty barrels shall be adequately stoppered and stored in an upright position away from the waterway.
11. Diesel and fuel filler hoses shall be provided with covered drip pans to contain any spillage or leakage from fuel transfer operations.
12. Sanitary wastes are to be discharged to the Seattle sanitary sewerage system.
13. The permittee shall investigate and implement through the duration of this permit all reasonable methods for the re-use of treated wastewater now discharged to the Duwamish River.
14. In the event.....
This permit.....
This permit.....
In the event.....

SAM:ll

12-30-71

cc: ~~A. L. Poole, Metro, Seattle~~
L. White, City of Seattle Engineering Dept.

Draft
Permanent
No Ad Needed

*EW &
Red 10 Aug 7*

Agency Comments _____
Public Comments _____
No Comments _____

Permit No. _____

Name and Address: Glacier Sand and Gravel Co.
Lake Union Plant
5975 E. Marginal Way So.
Seattle, Washington 98134

Date of Issue _____

Date of Expiration _____

Uncontaminated storm water run-off

~~Waste~~ from the permittee's industrial operation located at 205 N. E. Northlake Way, Seattle
in irregular and _____ amounts

~~NOT EXCEEDING~~ undetermined / gallons per day may be discharged to Lake Union

_____ at the following point of discharge:

205 N. E. Northlake Way

Said discharge is authorized subject to the following conditions:

1. The word "waste" in this permit refers to the total volume of contaminated waters to be intercepted for treatment.
2. The non-overflow, closed circuit recirculation system consisting of a settling basin, clear water storage basin, storage tank and associated pumps and piping shall be maintained and operated in such a manner as to intercept, contain, treat and reasonably reuse all contaminated process waters and contaminated storm water run-off originating on the plant property.
3. There shall be no overflow or discharge of water from the recirculation system to the ground surface or to a state waterway. All excess water accumulation shall be disposed of by incorporation into concrete batch mixes or by regulated, metered connection to the sanitary sewer system.
4. The settling and storage basins shall be inspected monthly to measure sediment accumulations. Sediment shall be disposed of in a diked area or incorporated and thoroughly mixed with other stable fill material for immediate removal from the plant site.
5. All washdown of truck and equipment exteriors and mixer drum interiors shall be conducted on the wash rack drainage slabs and all washwaters shall be discharged to the aggregate recovery ramp and the waste treatment settling basins. The use of detergent solutions to clean trucks shall be kept to an absolute minimum.
6. No wastewater, washwater or other contaminated water, nor waste concrete shall be discharged to Lake Union or to the immediate embankment along Lake Union, where such wastes may leach or flow into the waterway.
7. All batch plant washdown water and immediate surface drainage shall be discharged to the waste treatment settling basin.
8. Waste concrete shall be discharged to the aggregate recovery ramp or incorporated into form-cast concrete products. No waste concrete shall be dumped to the ground surface.

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Renewal
No advertising needed
Permanent

9. Dry cement shall be handled in such a manner as to prevent its discharge to the ground surface or contamination of storm water run-off.
10. No oils, waste oils, solvents or oily sludges are to be discharged to the ground surface or the recirculating waste treatment system.
11. All barrels containing oils, waste oils, setting agents, air-entraining agents or other chemicals shall be stored in a curbed, covered area to eliminate possible spills and contaminated run-off from entering any sewer system or flowing overland to a state waterway. Empty barrels shall be adequately stoppered and stored in an upright position away from the waterway.
12. Diesel and fuel filler hoses shall be provided with covered drip pans to contain any spillage or leakage from fuel transfer operations.
13. Sanitary wastes shall be discharged to the Seattle sanitary sewerage system.
14. In the event.....
This permit.....
This permit.....
In the event.....

SAM:mk

cc: Jim Hinman, Metro
Lee White, City of Seattle